

NOTES ON BROMELIACEAE, VII

Lyman B. Smith

TROPICAL AMERICA

TILLANDSIA DEPPEANA Steud. Nom. Bot. ed. 2. 2: 688. 1841.

1. Inflorescence pinnately compound, elongate.
2. The inflorescence only bipinnate or subtripinnate at the base.
3. Leaf-blades glabrous or obscurely lepidote.
4. Spikes erect, long-stipitate.....A. Var. deppeana
4. Spikes spreading to decurved.
5. The spikes straight, mostly spreading, distinctly complanate, mostly with a short sterile base.
- B. Var. latifolia
5. The spikes decurved, nutant, slightly complanate, the sterile base mostly elongate.....C. Var. clavigera
3. Leaf-blades densely cinereous-lepidote beneath; sepals only about 25 mm. long.....D. Var. costaricensis
2. The inflorescence amply tripinnate...E. Var. tripinnata
1. Inflorescence simple or digitate from a few spikes
- F. Var. reducta

A. TILLANDSIA DEPPEANA var. DEPPEANA

T. paniculata Schlecht. & Cham. Linnaea 6: 54. 1831, not L. 1762.

T. leiochlamys Baker, Handb. Bromel. 184. 1889. (Uhde 180, Mexico).

T. paniculata var. genuina Mez in DC. Monogr. Phan. 9: 703. 1896.

T. rubra sensu L. B. Smith, Contr. Gray Herb. 95: 46. 1931, not R. & P. 1802. (without varietal distinctions).

T. baliophylla Harms, Notizblatt 12: 538. 1935. (Ekman H-8308, Haiti).

T. smithiana Carabia, Mem. Soc. Cub. Hist. Nat. 15: 257. 1941. (J. G. Jack 7293, Cuba).

Tillandsia deppeana is a substitute name for *T. paniculata* Schlecht. & Cham., which is a later homonym. Consequently it is based on the same type, Schiede & Deppe 1008, from Mexico. Not having seen this, I am interpreting the type on the basis of Mez's synonymy and citations in DC. Monogr. Phan. 9: 703, and calling it the same as Uhde 180, the type of *T. leiochlamys* Baker.

B. TILLANDSIA DEPPEANA var. LATIFOLIA (Griseb.) L. B. Smith. comb. nov.

T. excelsa var. latifolia Griseb. in Nachr. Ges. Wiss. Goett. for 1864: 17. 1865. (Fendler 1522, Cuba).

T. fendleri Griseb. loc. cit. (Fendler 1515, Venezuela).

T. incurvata Wright ex Sauvalle, Anal. Acad. Habana 8: 54. 1871, as to material cited (Fendler 1522, Cuba), not as to

- basonym (Vriesia incurvata Gaud.).
- T. kalbreyeri Baker, Journ. Bot. 26: 45. 1888. (Kalbreyer 1013, Colombia).
- T. paniculata β . fendleri (Griseb.) Mez in DC. Monogr. Phan. 9: 703. 1896.
- T. bangii Baker, Mem. Torrey Bot. Club 6: 124. 1896. (Bang 1283, Bolivia).
- T. macrodactylon Mez, Fedde Rep. Nov. Spec. 3: 39. 1906. (Weberbauer 2049, Peru).
- T. rubra var. fendleri (Griseb.) Mez, Pflanzenreich IV. Fam. 32: 458. 1935.
- C. TILLANDSIA DEPPEANA var. CLAVIGERA (Mez) L. B. Smith, comb. nov.
- T. clavigera Mez in DC. Monogr. Phan. 9: 783. 1896. (Steubel 208-a, Ecuador).
- D. TILLANDSIA DEPPEANA var. COSTARICENSIS (Mez) L. B. Smith, comb. nov.
- T. paniculata var. costaricensis Mez in DC. Monogr. Phan. 9: 703. 1896. (Oersted, Costa Rica).
- T. rubra var. costaricensis Mez, Pflanzenreich IV. Fam. 32: 458. 1935.
- E. TILLANDSIA DEPPEANA var. TRIPINNATA L. B. Smith, Phytologia 5: 49. 1954. (Ferreira 9410, Peru).
- F. TILLANDSIA DEPPEANA var. REDUCTA (L. B. Smith) L. B. Smith, comb. nov.
- T. rubra var. reducta L. B. Smith, Fieldiana, Bot. 28, no. 1: 151. 1951. (Steyermark 60851, Venezuela).

MEXICO

HECHTIA MATUDAI L. B. Smith, sp. nov.

H. montana Brandege in systema mea (N. Am. Fl. 19: 84) proxima sed spinis foliorum minoribus, scapi bracteis magnis imbricatis, ramis brevibus, pedicellis gracillimis longioribus differt.

Only very old pistillate material known, plant over 5 dm. high; leaves numerous, rosulate, 20 cm. long, the sheaths reniform, 5 cm. wide, glabrous and stramineous except for the extreme apex, the blades narrowly triangular, abruptly acute and mucronate, 4 cm. wide, evidently very thick and fleshy in life, densely cinereous-lepidote becoming partially glabrous above, laxly serrate with uncinat spines 2 mm. long; scape erect, only about 4 mm. in diameter; scape-bracts densely imbricate, lanceolate, 6 cm. long, entire, subchartaceous when dry, densely lepidote; inflorescence laxly bipinnate; primary bracts linear, about equaling the branches; racemes sessile, subdense, their slender axes to 35 mm. long; floral bracts linear, acuminate, 7 mm. long, membranous; pedicels

subspreading, almost filiform, 10 mm. long, not articulated; sepals narrowly triangular, 3 mm. long; petals 8 mm. long; ovary almost wholly superior; capsule slenderly ovoid, 15 mm. long, thin-walled. Pl. I, fig. 1: Fruit x 1; fig. 2: Sepal x 2.

Type in the U. S. National Herbarium, No. 2,124,592, collected on moist slopes, in open mixed woods, Tepoztlán, State of Morelos, Mexico, altitude 1700 meters, June 8, 1952, by E. Matuda (No. 26,351).

CUBA - HISPANIOLA

TILLANDSIA JENMANII Baker, Journ. Bot. 25: 345. 1887. (Jenman 848, British Guiana).

T. araeostachya Harms, Notizblatt 10: 797. 1929. (Ekman H-8306, Cuba).

COLOMBIA

PITCAIRNIA MEGASEPALA Baker, Journ. Bot. 19: 229. 1881.

P. camptocalyx André, Enum. Bromel. 4. Dec. 13, 1888; Rev. Hort. 60: 564. Dec. 16, 1888, including varieties.

The leaf-blades of Pitcairnia megasepala are deciduous and thus no different from those of P. camptocalyx.

PITCAIRNIA SQUARROSA L. B. Smith var. AURANTIACA L. B. Smith, var. nov.

A var. squarrosa inflorescentia brevior, bracteis florigeris apice latioribus, sepalis minoribus, petalis aurantiacis differt.

Inflorescence 10 cm. long; floral bracts with short broadly acute apices; sepals 25 mm. long; petals orange.

Type in the University of Copenhagen, collected at Anchicaya, Department of Valle, Colombia, altitude 500 meters, August 11, 1952, by Mogens Køie (No. 4785).

TILLANDSIA SANCTAE-MARTAE L. B. Smith, sp. nov.

T. aeris-incola sensu L. B. Smith, Contr. Gray Herb. 89: 22, pl. 5, fig. 5. 1930, as to Colombian material, not Mez, 1896.

A T. aeris-incola Mez, cui affinis, spicis brevioribus, floribus patentibus quam internodiis subduplo longioribus differt.

Stemless, 3-5 dm. high with the inflorescence extended; leaves densely bulbous-rosulate, 15-25 cm. long, densely and minutely pale-lepidote, the sheaths suborbicular, 6 cm. in diameter, thin, the blades narrowly triangular, to 15 mm. wide, coriaceous; scape slender, curved, cinereous-lepidote becoming glabrous; scape-bracts ovate, acuminate, at least the upper ones shorter than the internodes; inflorescence apparently pendulous, laxly tripinnate, narrow, cinereous-lepidote; primary bracts like the scape-bracts, mostly shorter than the sterile naked bases of the branches; spikes about 8-flowered, 2-3 cm. long; rhachis geniculate; floral bracts ovate, about half as long as the sepals, ecarinate but with a distinct midnerve;

flowers spreading or subspreading; sepals obovate, asymmetric, 5 mm. long; petals slightly if at all exserted. Pl. I, fig. 3: Upper scape-bract x 1; fig. 4: Branch of inflorescence x 1.

Type in the herbarium of the New York Botanical Garden, collected in forest, Sierra del Libano, Santa Marta, Department of Magdalena, Colombia, altitude 1650 meters, January 19, 1899, by H. H. Smith (No. 2346). Isotype in Herb. Kew.

MAGDALENA: High in trees, rain forest, near Hacienda Cincinnati, mountains above Santa Marta, alt. 1200 m., Aug. 6, 1946, M. B. & R. Foster & C. E. Smith, Jr. 1433 (GH).

VRIESIA HOSPITALIS (L. B. Smith) L. B. Smith, comb. nov.
Tillandsia hospitalis L. B. Smith, Caldasia 5: 13, fig. 1948.

MAGDALENA: Terrestrial, completely exposed to the sun, páramo, hills above Hacienda Cincinnati, montañas of Santa Marta, alt. 2100-2250 m., Aug. 3, 1946, M. B. & R. Foster & C. E. Smith, Jr. 1403 (GH, type). On hillsides at fringe of true páramo, Surivaquito, Sierra Nevada de Santa Marta, alt. 2400 m., April 22, 1939, Hanbury-Tracy 310 (K, US).

The Hanbury-Tracy collection has petals which show the characteristic scales of a Vriesia.

GUZMANIA KRAENZLINIANA Wittm. var. MACRANTHA L. B. Smith, var. nov.

A var. kraenzliniana floribus majoribus differt.

Sepals 18 mm. long; petals over 6 cm. long.

Type in the Chicago Natural History Museum, collected on trees, gully at Kilometer 51, left bank of the Río San Juan in the region of Querebral, Río Digua drainage, west slope of the Cordillera Occidental, Department of Valle, Colombia, altitude 1650 meters, February 25, 1947, by J. Cuatrecasas (No. 23727).

Until other distinctions than size can be found for the above plant, it seems better not to consider it a species.

GREIGIA COLUMBIANA L. B. Smith var. SUBINERMIS L. B. Smith, var. nov.

A var. columbiana spinis foliorum minoribus, bracteis primariis subinermibus differt.

Type in the United States National Herbarium, No. 1,989,501, collected near García, Pamplona, Department of Norte de Santander, Colombia, March 18, 1945, by Miguel de Carganta (No. 980).

PERU

PUYA ARGENTEA L. B. Smith, sp. nov.

A P. reflexiflora Mez, cui affinis, floribus minoribus, sepalis angustis acutis differt.

Flowering shoot 1 m. high (! Rauh & Hirsch); leaf-sheaths unknown, blades very narrowly triangular, acuminate, pungent, over 5 dm. long, 25 mm. wide, covered with appressed silvery scales on both sides, laxly serrate, the spines slender, uncinate, 6 mm. long, brown, all but the lowest antrorse; scape ca.

7 mm. in diameter, glabrous; scape-bracts erect, exceeding the internodes but exposing most of the scape, triangular, the lowest caudate, white, serrulate, lepidote, the others acuminate, drying brown and rather brittle, subentire, glabrous; inflorescence simple, lax except for an apical coma (which may not be normal), 10 cm. long; axis sparsely tomentose with fine white stellate scales; floral bracts broadly ovate, acuminate, about equaling the pedicels, entire, brown, subglabrous; pedicels slender, 12 mm. long; sepals oblong, acute 21 mm. long, densely and persistently white-tomentulose; petals 35 mm. long, blue-green; stamens barely exerted at anthesis. Pl. I, fig. 5: Flower x 1; fig. 6: Sepal x 1.

Type in the U. S. National Herbarium, No. 2,170,796, collected on dry rocks, Quebrada Uta, Cordillera Blanca, Department of Ancachs, Peru, altitude 3000 meters, August 4, 1954, by W. Rauh and G. Hirsch (No. P-2075).

PUYA RAUHII L. B. Smith. sp. nov.

A *P. reflexiflora* Mez, cui affinis, inflorescentia densa basi pauciramosa, floribus strictis, sepalis minoribus angustioribusque differt.

Caulescent, branching (! photo), flowering shoot 1-1.5 m. high (! Rauh & Hirsch); leaves more or less rosulate at the ends of the branches, numerous, the blades spreading to recurving, very narrowly triangular, about 6 dm. long, 2 cm. wide, covered with white appressed scales but soon glabrous and lustrous above, laxly serrate with spreading brown spines 7 mm. long; scape erect, 1 cm. in diameter near the apex, soon glabrous; scape-bracts not at all foliaceous, fragile, drying to blackish brown, quickly deciduous; inflorescence densely cylindrical, simple except for several very short few-flowered branches at the base, 14 cm. long, 4 cm. in diameter; primary bracts suborbicular, apiculate, 30 mm. long, exceeding the branches but not the sepals, coriaceous, drying blackish brown, soon glabrous; floral bracts ovate, acuminate, 30 mm. long; pedicels slender, 20 mm. long, densely cinereous-lanate; sepals oblong, rounded and apiculate, 22 mm. long, densely cinereous-lanate; petals 35 mm. long, blue-green; stamens slightly exerted at anthesis. Pl. I, fig. 7: Flower x 1; fig. 8: Sepal x 1.

Type in the U. S. National Herbarium, No. 2,170,793, collected between rocks, Quebrada Yanganuco, Cordillera Blanca, Province of Yungay, Department of Ancachs, Peru, altitude 3900 meters, July 31, 1954, by W. Rauh and G. Hirsch (No. P-2022).

TILLANDSIA CERRATEANA L. B. Smith, sp. nov.

A *T. oroyensis* Mez, cui affinis, inflorescentia parva compacta, bracteis florigeris sepalisque dissite lepidotis differt.

Saxicolous and epiphytic, stemless, 3-5 dm. high; leaves about 20, suberect, to 28 cm. long, covered with fine appressed cinereous scales, the sheaths elliptic, 6-8 cm. long, castane-

ous, the blades narrowly triangular, acuminate, 25 mm. wide, flat; scape erect; scape-bracts strict, densely imbricate, the lower ones foliaceous, the highest with suborbicular roseate subdensely lepidote sheaths and short foliaceous blades; inflorescence densely bipinnate, ellipsoid, 6 cm. long, 3-4 cm. in diameter, rose, sparsely lepidote; primary bracts like the upper scape-bracts but mostly apiculate, shorter than the spikes especially the upper ones; spikes elliptic, densely few-flowered, 25 mm. long, complanate; floral bracts broadly ovate, shorter than the sepals at anthesis, barely or not carinate, sulcate; flowers subsessile; sepals ovate, obtuse or subacute, 12 mm. long, equally short-connate; petals 18 mm. long, the blade obtuse; stamens included. Pl. I, fig. 9: Inflorescence x 1; fig. 10: Sepals x 1.

Type in the U. S. National Herbarium, No. 2,027,898, collected on rocks, Cashapata, near Chiquián, Province of Bolognesi, Department of Ancachs, Peru, altitude 3560 meters, August 5, 1949, by Emma Cerrate (No. 391).

ANCACHS: On Polylepis trees, Quebrada Yanganuco, near Yungay, Cordillera Blanca, alt. 3900-4000 m., July 31, 1954, Rauh & Hirsch P-2002 (US).

TILLANDSIA REDUCTA L. B. Smith, sp. nov.

T. paleaceam Presl in subgenere Phytarrhiza in habitu valde simulans, sed inflorescentia paupere bipinnata et internodiis brevissimis differt et ob laminas petalorum erectas vix latas et filamenta recta satis elongata subgenerem Allardtia pertinens.

Probably long-caulescent but the stem known only by fragments 4-8 cm. long, appearing 8 mm. in diameter because of the densely imbricate leaf-sheaths; leaves persistent, densely cinereous-tomentose with fine linear spreading scales, the sheaths broadly ovate, 12 mm. long, thin, the blades spreading, very narrowly triangular, 4-5 cm. long, involute; scape erect, very slender, 2-3 cm. long; scape-bracts strict, imbricate, subfoliaceous with rose sheaths and short blades; inflorescence depauperately bipinnate, dense, 2 cm. long; axes with very short internodes; primary bracts and floral bracts distinguished only by position and a slight difference in size, ovate, acute, about equaling the sepals, ecarinate, thin, nerved, rose, covered with coarse white appressed scales; spikes of one normal flower and one or two abortive ones; flowers subsessile; sepals equally short-connate, oblong, broadly acute, 9 mm. long; petals 15 mm. long, barely exceeding the stamens, the blade erect, elliptic, purple; filaments straight. Pl. I, fig. 11: Scape and inflorescence x 1; fig. 12: Sepals x 1.

Type in the U. S. National Herbarium, No. 2,027,958, collected on rocky ground, Llacanora, kilometer 12-13 of the Cajamarca-Cajabamba road, Province of Cajamarca, Department of Cajamarca, Peru, altitude 2500-2600 meters, March 29, 1948, by Ramón Ferreyra (No. 3216).

Plate I

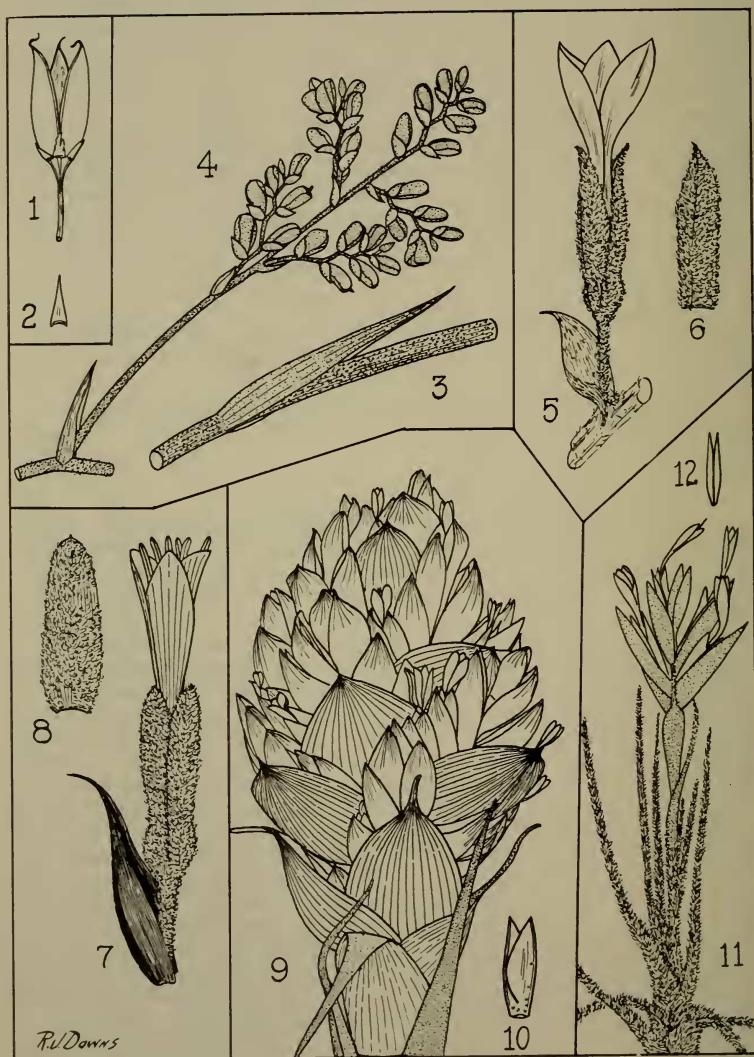


Fig. 1, 2: *Hechtia matudai*; fig. 3, 4: *Tillandsia sanctae-martae*; fig. 5, 6: *Puya argentea*; fig. 7, 8: *Puya rauhii*; fig. 9, 10: *Tillandsia cerrateana*; fig. 11, 12: *T. reducta*.